

## Abstract of the disclosure

The invention relates to a process for preparing tert-butanol by reaction of a homogeneous mixture comprising water, tert-butanol and an isobutene-containing hydrocarbon mixture over an acidic ion-exchange resin at from 30 to 120°C, wherein the homogeneous  
5 mixture contains, at a proportion by mass of isobutene of above 10%, from 30 to 80% of the maximum amount of water made possible by the solubility of water in the mixture of tert-butanol and the isobutene-containing hydrocarbon mixture.